APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,630	06/22/2001	Hans Carlsson	4015-955	7398

24112	7590	03/10/2004

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EXAMINER
PHILPOTT, JUSTIN M

ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)
Office Action Summary		09/887,630	CARLSSON ET AL.
		Examiner	Art Unit
		Justin M Philpott	2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 December 2003</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-20</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>10</u>.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed December 29, 2003 have been fully considered but they are not persuasive.

First, applicant argues (page 4, first paragraph) that claim 1 *"explicitly requires* that the location service message go from the location server to the base station subsystem, from the base station subsystem to the serving GPRS support node, *and then* from the serving GPRS support node to the mobile station" (emphasis added). However, with respect to this argument, applicant fails to discuss the references applied against the claims, explaining how the claims avoid the references or distinguish from them. Thus, this argument is moot. Nevertheless, for the sake of argument, contrary to applicant's assertion, claim 1 broadly recites a method "comprising" the three above-mentioned steps. That is, the language of claim 1 does not include the limitation of a method consisting of only the recited steps occurring in the immediate order listed. Thus, contrary to applicant's argument, claim 1 does not explicitly require the above-mentioned specifically ordered process.

Second, applicant argues (page 4, second paragraph) that the location server performs specific functions as recited in applicant's specification (page 6, lines 3-6 and page 7, line 18 to page 8, line 3) which are not performed by Haeggstrom. However, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., specific functions performed by the location server) are not recited in the rejected claim(s). Although the claims are interpreted in light of the

specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Thus, applicant's argument is moot.

Third, applicant argues (page 5, first paragraph) that the HLR/VLR of Haeggstrom "does not actively participate in determining the positioning of a mobile terminal (such as by performing the position calculations and/or providing reference information to perform the calculations) in conjunction with the mobile terminal" as required by applicant's "location server". However, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a location server which actively participates in determining the positioning of a mobile terminal, such as by performing the position calculations and/or providing reference information to perform the calculations, in conjunction with the mobile terminal) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Thus, applicant's argument is moot.

Fourth, applicant argues (page 5, first paragraph) that in applicant's Figure 1, an embodiment comprises an HLR 36 which is distinct from SMLC 38 (or, the location server), and therefore, the HLR/VLR of Haeggstrom cannot be considered to be a "location server". However, claim 1 does not recite an HLR and an SMLC such that both are separate entities. Therefore, applicant's argument that Haeggstrom fails to teach a location server that is distinct from performing functions of an HLR is moot.

Fifth, applicant argues (page 5, second paragraph) that the HLR/VLR of Haeggstrom "does not transmit any 'location service messages' *for the mobile station*, as is required by the

'location server' of claim 1" (emphasis added). However, claim 1 does not recite such a

limitation – specifically, that the location server transmits messages for the mobile station. Thus,

this argument is moot. Applicant continues, arguing that an HLR/VLR does not request a mobile

terminal to feedback its current location, or requests a mobile terminal to take measurements that

are used to determine its location. However, still, claim 1 fails to recite such limitations, thus,

this argument remains moot. Finally, applicant argues (beginning page 6) that neither Aarnio nor

Haeggstrom teach "any position determining related inquiry that comes from, or is transmitted

by any HLR/VLR that flow to a mobile terminal". However, Haeggstrom introduces the

elements of home location register HLR and visitor location register VLR (e.g., see col. 5, lines

7-10), and while Haeggstrom may not specifically describe the particular functionality of each of

these elements, the functionality of such elements is well known in the art and is even implied by

the names "home and visitor *location* registers". For further explanation, however, "The

Telecommunications Handbook" (2000, CRC Press LLC) states the following about an HLR:

"Information about each subscriber is stored by its mobile service provider in a Home Location

Register (HLR). An HLR is informed when one of its subscribers registers so that calls can be

forwarded to a roaming subscriber. ... When a mobile station is called, ... *MSC checks with its*

HLR to discover the *location* of a registered called mobile" (emphasis added). Still further,

applicant equates HLR 36 of applicant's Figure 1 to the HLR of Haeggstrom in order to attempt

to distinguish SMLC 38 as a location server separate from the functionality of an HLR (e.g., see

Remarks, December 29, 2003, page 5, first paragraph). However, applicant clearly discloses that

such an HLR is part of an operation whereby location information is transferred between an HLR

and a mobile terminal (subscriber) by stating, "The HLR 36 stores subscriber information and

the current *location of the subscriber*. ... The network updates the location information in the

HLR 36...." (emphasis added) (specification, page 5, lines 18-21). Clearly, in agreement with

"The Telecommunications Handbook", applicant discloses an HLR is identified as having

location information transferred between it and a mobile terminal. Thus, having equated the

HLR of Haeggstrom to the HLR of applicant's Figure 1, applicant's argument that the HLR of

Haeggstrom does not have location information transferred between it and a mobile terminal is

not persuasive, since such an operation of an HLR is well known in the art, as indicated by "The

Telecommunications Handbook", and is further taught by applicant (specification, page 5, lines

18-21).

Sixth, applicant argues (page 6, first paragraph to page 7, first paragraph) that Examiner

has not provided sufficient motivation for combining the teachings of Haeggstrom to the method

of Aarnio. Specifically, applicant argues that the "improved speech quality" of Haeggstrom

results from a configuration which is already present in the method of Aarnio. However, as

discussed in the previous office action, while Aarnio teaches a method of transmitting a location

message, Aarnio does not specify an order of transmission between the inherent devices (e.g.,

BSS, SGSN, etc.) within GPRS network 14. Applicant agrees by asserting, "Aarnio provides no

insight as to how the message is handled internally to the GPRS network 14" (Remarks, August

14, 2003, page 4, lines 4-5). Thus, one of ordinary skill in the art would clearly be motivated to

determine a particular arrangement for the devices within GPRS network 14, since Aarnio does

not provide any insight as to such an arrangement, in order to perform the system of Aarnio.

Haeggstrom also teaches a method of GRPS transmission, and further, teaches a specific

embodiment (e.g., FIG. 2) indicating an arrangement of the devices within a GPRS network. In

the GPRS network arrangement of Haeggstrom, a serving GPRS support node (e.g., SGSN) is coupled to a location server (e.g., HLR, VLR) by means of a base station subsystem (e.g., at BSC, see col. 4, lines 51-54 wherein BSS comprises BSC). Thus, Haeggstrom provides an arrangement for the devices within a GPRS network. Since, as discussed above and agreed by applicant, Aarnio does not disclose an arrangement of the devices within GPRS network 14, one of ordinary skill in the art would be motivated to apply GPRS network arrangement teachings, such as the GPRS network arrangement teachings of Haeggstrom, in order to perform the system of Aarnio. Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the GPRS network arrangement teachings of Haeggstrom to the system of Aarnio in order to perform the system of Aarnio.

Further, with respect to applicant's argument that the "improved speech quality" of Haeggstrom results from a configuration which is already present in the method of Aarnio, such a result is achieved by avoiding a PSTN (also agreed by applicant, see Remarks, December 29, 2003, page 7, first paragraph). In addition to both Haeggstrom and Aarnio being directed towards providing improved speech quality by avoiding the PSTN, as asserted by applicant, "Such a combination [of Haeggstrom and Aarnio] *in no way requires* that Aarnio's standard GPRS network be completely restructured to somehow require that a BSC be inserted into the connection between a MSC and a SGSN" (emphasis added) (page 7, first paragraph). Accordingly, one of ordinary skill in the art would be motivated to apply the GPRS network arrangement teachings of Haeggstrom to the system of Aarnio, since such an arrangement leads to the intended goals of Aarnio (e.g., improved speech quality, avoiding a PSTN) and would also involve an ease of implementation since, according to applicant, such a combination would not

require the network of Aarnio to be completely restructured. Thus, at the time of the invention it

would have been obvious to one of ordinary skill in the art to apply the GPRS network

arrangement teachings of Haeggstrom to the GPRS network of Aarnio in order to perform a

system which achieves the intended goals of both Haeggstrom and Aarnio and whereby such a

combination involves an ease of implementation such that it would not require the network of

Aarnio to be completely restructured.

Seventh, applicant argues (page 8, first paragraph) that the SGSN of Haeggstrom, while

coupled to the MSC via BSC, is known in the art to be coupled to a MSC without intervention of

a BSC. However, with respect to this argument, applicant fails to discuss the references applied

against the claims, explaining how the claims avoid the references or distinguish from them.

Thus, this argument is moot.

Claim Rejections - 35 USC § 103

2.   The text of those sections of Title 35, U.S. Code not included in this action can be found

in a prior Office action.

3.   Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent

No.6,522,889 to Aarnio in view of U.S. Patent No. 6,167,040 to Haeggstrom.

Regarding claims 1, 5, 9, 13 and 17, Aarnio teaches a method of transmitting a location

service message between a location server and a mobile station in a packet network (e.g., see

FIG. 1). Specifically, regarding claims 1, 9 and 13, Aarnio teaches transmitting the location

service message (e.g., location information, see col. 4, lines 18-27) in a downlink from the

location server (e.g., LS 22) to a GPRS network (14), wherein Examiner takes official notice that

a GPRS network implicitly comprises a base station subsystem and a serving GPRS support node (see also Applicant's Remarks, August 14, 2003, pages 3-4); and forwarding the location service message from the GPRS network (14) to the mobile station (e.g., MS 12). Additionally, regarding claims 5, 9 and 17, Aarnio teaches transmitting a location service message (e.g., request to identify MS location) between a mobile station and a location server in the opposite direction in an uplink (e.g., from the mobile station to the GPRS network to the location server, see col. 3, lines 40-42).

However, Aarnio may not specifically disclose that within the GPRS network (14), the location message is first forwarded to the base station subsystem and then forwarded to the serving GPRS support node from the base station subsystem in the downlink, and vice versa in the uplink. Applicant similarly asserts, "Aarnio provides no insight as to how the message is handled internally to the GPRS network 14" (Remarks, August 14, 2003, page 4, lines 4-5).

Haeggstrom also teaches methods of transmission in a GPRS network system. Specifically, Haeggstrom teaches in a GPRS network, a configuration (e.g., FIG. 2) wherein a serving GPRS support node (e.g., SGSN) is coupled to a location server (e.g., HLR, VLR) by means of a base station subsystem (e.g., at BSC, see col. 4, lines 51-54 wherein BSS comprises BSC). The teachings of Haeggstrom provide improved connection of calls between a telephone in a data network and a mobile station without using any public switched telephone network, thus achieving improved speech quality (e.g., see col. 3, line 50 – col. 4, line 19). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the configuration of Haeggstrom (i.e., coupling the serving GPRS support node to the location server by means of the base station subsystem) within the GPRS network (14) of Aarnio in order to

provide improved connection of calls between a telephone in a data network and a mobile station

without using any public switched telephone network, thus achieving improved speech quality.

Regarding claims 2, 7, 10, 14 and 19, Aarnio further teaches encapsulating (e.g., via

conversion server 20, see col. 3, lines 8-14) the location service message (e.g., comprising digital

image data) in a link control message (e.g., comprising text format) and transmitting the link

control message from the GPRS support node (e.g., within GPRS network 14) to the mobile

station (e.g., MS 12) in the downlink, and from the mobile station to the GPRS support node in

the uplink.

Regarding claims 3, 6, 11, 15 and 18, as discussed above regarding claims 1, 5, 9, 13 and

17, while Aarnio may not specifically disclose a specific route of messages within the GPRS

network, Haeggstrom teaches a base station subsystem (e.g., BSS comprising BSC and BTS)

serves as an intermediary for communications between a serving GPRS support node (e.g.,

SGSN) and a mobile station (e.g., MS). The teachings of Haeggstrom provide improved

connection of calls between a telephone in a data network and a mobile station without using any

public switched telephone network, thus achieving improved speech quality (e.g., see col. 3, line

50 – col. 4, line 19). Thus, at the time of the invention it would have been obvious to one of

ordinary skill in the art to apply the configuration of Haeggstrom (i.e., coupling the serving

GPRS support node to the location server by means of the base station subsystem) within the

GPRS network (14) of Aarnio in order to provide improved connection of calls between a

telephone in a data network and a mobile station without using any public switched telephone

network, thus achieving improved speech quality.

Regarding claims 4, 8, 12, 16 and 20, Aarnio teaches ciphering the link control message

(e.g., converting digital image data to a text format, see col. 3, lines 8-10) and deciphering the

link control message (e.g., wherein the location information may be take the form of a diagram

or audible message, see col. 4, lines 18-27); wherein in the downlink ciphering implicitly occurs

at the GPRS support node and deciphering occurs at the mobile station, and in the uplink

ciphering occurs at the mobile station and deciphering occurs at the GPRS support node.

Conclusion

4.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Justin M Philpott whose telephone number is 703.305.7357. The

examiner can normally be reached on M-F, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Huy D Vu can be reached on 703.308.6602. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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